

(19) World Intellectual Property
Organization
International Bureau



542 449

(43) International Publication Date
29 July 2004 (29.07.2004)

PCT

(10) International Publication Number
WO 2004/062651 A1

(51) International Patent Classification⁷: **A61K 9/72**, 39/39

(21) International Application Number:
PCT/GB2004/000104

(22) International Filing Date: 14 January 2004 (14.01.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0300885.1 15 January 2003 (15.01.2003) GB

(71) Applicant (for all designated States except US): **THE SECRETARY OF STATE FOR DEFENCE** [GB/GB]; DSTL, Porton Down, Salisbury, Wiltshire SP4 0JQ (GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **EYLES, James, Edward** [GB/GB]; DSTL, Porton Down, Salisbury, Wiltshire SP4 0JQ (GB). **PHILLIPS, Gary, John** [GB/GB]; DSTL, Porton Down, Salisbury, Wiltshire SP4 0JQ (GB). **MAIDMENT, Michael, Patrick** [GB/GB]; DSTL, Porton Down, Salisbury, Wiltshire SP4 0JQ (GB). **WILLIAMSON, Ethel, Diane** [GB/GB]; DSTL, Porton Down, Salisbury, Wiltshire SP4 0JQ (GB).

(74) Agents: **GREAVES, Carol, Pauline et al.**; Greaves Brewster, Indigo House, Cheddar Business Park, Wedmore Road, Cheddar BS27 3EB (GB).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **PHARMACEUTICAL AEROSOL COMPOSITION**

(57) Abstract: An aerosol formulation comprising a biodegradable microsphere comprising a non-living reagent, such as a sub-unit vaccine, that produces a protective immune response in a mammal to whom it is administered. Nebulizers and inhalers containing such formulations are also described and claimed.

WO 2004/062651 A1